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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,315	06/28/2004	Shichao Ge	4582-008	9868

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ALEXANDRIA, VA 22314

EXAMINER

SEMBER, THOMAS M

ART UNIT	PAPER NUMBER
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2885

MAIL DATE	DELIVERY MODE
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01/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/500,315

Applicant(s)

GE, SHICHAO

Examiner

Thomas M. Sember

Art Unit

2885

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7-16,20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-16 is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7,8,20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA (Applicant's admitted prior art) in view of Li '841. AAPA (Applicant's admitted prior art) (particularly figure 1) discloses at least one LED chip (101, Fig. 1) directly mounted on a metal base (103) of high heat conductivity. The LED chip 101 is electrically connected to an applied power supply/driving circuit through the CB 106 via outgoing LED leads 104. A base top surface 103 acts as a light reflective surface and is provided around the base. As broadly claimed, the circuit board (166) is provided on (as broadly claimed, the phrase "provided on" is functional language and given very little patentable weight. Furthermore the phrase "provided on" fails to directly connect to or even structurally related to the base in anyway.

•Wherein the LED has a transparent medium layer/bulb housing/optical glue and lens disposed thereon (108/109); •A light reflector at front of the LED chip (102); •Wherein an angle between the reflective surface and an LED axis is from 10 to 70 degrees (Fig. 1 illustrates a prior art device having a reflector with an angle relative to an LED axis that is substantially similar to Applicant's claimed invention illustrated in Fig. 2, i.e. approximately 45 degrees); and •Wherein the heat sink has heat-dispersing

flanges on it (113, Fig. 1).

However, AAPA fails to disclose that a screw mechanically connects a heat sink to a bottom surface of the base metal 103 of AAPA figure 1.

Li '841 teaches a screw (22 and 221 particularly figure 5) which mechanically connects a heat sink 28 to a bottom surface of the base metal (23, 231 and 233).

It would have been obvious to one skilled in the art at the time the invention was made to substitute the base, screw and heat sink assembly of Li '841 for the base, connector and heat sink assembly of AAPA's figure 1 in order to efficiently disperse heat from the lighting assembly of AAPA.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Li '841 as applied to claims 1, 3-4, 7 and 21. While AAPA substantially discloses the claimed invention including an LED chip (as shown above), undisclosed is a plurality of LED chips of the same or different color. However, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Given that it is well known that an increase in the number of light sources will increase overall light output, it would have been obvious to one having ordinary skill in the art to duplicate the existing light source/LED of AAPA in order to provide a plurality of LEDs of the same color for increase light output.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA and Li '841 as applied in claims 1, 3-4, 7 and 21 in view of Lowery, AAPA and Li '841

substantially disclose the claimed invention, but do not disclose an LED having a light-converting member between the optical glue and lens. However, LOWERY teaches an LED device utilizing a light-converting fluorescent member (52) for the purpose of converting light (Column 6, Lines 6-32). Further, LOWERY teaches positioning the material between the lens (54). LED (44, Fig. 2). Given the teachings of AAPA in addition to LOWERY, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify AAPA and use the material as taught by LOWERY and situated within AAPA in order to convert light as desired.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Li '841 as applied to claims 1, 3-4, 7 and 21. While AAPA substantially discloses the claimed invention including a metal base, undisclosed is the material the base is made of. It would have been obvious to one skilled in the art at the time the invention was made to use copper, aluminum or aluminum alloy for the metal base of AAPA since examiner takes official notice that these are well known materials used as electrical metal bases in the illumination art.

Response to Arguments

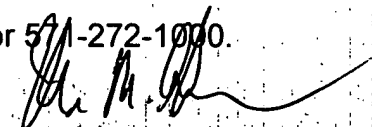
Applicant's arguments with respect to claims 1, 3-5, 7-8 and 20-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas M. Sember whose telephone number is 571-272-2381. The examiner can normally be reached on M-F 9 a.m. - 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong Suk (James) Lee can be reached on 571-272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Thomas M. Sember
Primary Examiner
Art Unit 2885